

phosphate, potassium hydroxide and lithium hydroxide. Preferred ranges of concentration and temperature are from 1 to 50% and 20 to 100°C, respectively. The alkali etching is preferably performed so that a dissolution amount of aluminum is in a range of from 5 to 20 g/m³.

After the etching procedure, the support is subjected to washing with an acid for removing smut remaining on the surface of support. Examples of the acid for use in the acid-washing step include nitric acid, sulfuric acid, phosphoric acid, chromic acid, hydrofluoric acid and borofluoric acid. As the method for removing smut after the electrochemical graining treatment, a method of bringing the aluminum support into contact with a 15 to 65% by weight aqueous solution of sulfuric acid having a temperature of from 50 to 90°C as described in JP-A-53-12739 and a method of performing alkali etching as described in JP-B-48-28123 are particularly preferred.

The surface roughness (Ra) of aluminum support preferably used in the present invention is in a range of from 0.3 to 0.7 μm.

<Anodizing Treatment>

The aluminum support thus-treated is then subjected to anodizing treatment.

The anodizing treatment can be conducted in a manner conventionally used in the field of art. Specifically, it

is performed by applying a direct current or alternating current to the aluminum support in an aqueous solution or non-aqueous solution containing sulfuric acid, phosphoric acid, chromic acid, oxalic acid, sulfamic acid, benzenesulfonic acid, or a combination of two or more thereof to form an anodic oxide layer on the surface of aluminum support.

The conditions of anodizing treatment cannot be determined generally, since they vary widely depending on an electrolytic solution to be used. However, ordinarily, a concentration of the electrolytic solution is in a range of from 1 to 80%, a temperature of the electrolytic solution is in a range of from 5 to 70°C, a current density is in a range of from 0.5 to 60 A/dm², a voltage is in a range of from 1 to 100 V, and a period of electrolysis is in a range of from 10 to 100 seconds.

Of the anodizing treatments, a method of anodizing in a sulfuric acid solution with a high current density as described in British Patent 1,412,768 and a method of anodizing using phosphoric acid as an electrolytic bath as described in U.S. Patent 3,511,661 are preferably used.

In the present invention, the thickness of anodic oxide layer is preferably from 1 to 10 g/m². When the thickness is less than 1 g/m², the printing plate is liable to be injured, and on the other hand, when the

thickness is more than 10 g/m², a large quantity of electric power is necessary and thus economically disadvantageous. The thickness of anodic oxide layer is more preferably from 1.5 to 7 g/m², and still more preferably from 2 to 5 g/m².

In the present invention, the aluminum support may further be subjected to sealing treatment of the anodic oxide layer after the graining treatment and anodizing treatment. The sealing treatment is performed by immersing the aluminum support in hot water or a hot aqueous solution containing an inorganic salt or an organic salt, or transporting in a water vapor bath. Moreover, the aluminum support may be subjected to surface treatment, for example, silicate treatment with an alkali metal silicate or immersion in an aqueous solution of potassium fluoro-zirconate or a phosphate.

On the aluminum support subjected to the surface treatment as described above, the photosensitive layer comprising the photopolymerizable composition described above is coated to prepare the photosensitive lithographic printing plate according to the present invention. Before the coating of photosensitive layer, an organic or inorganic undercoat layer may be provided on the support, if desired.